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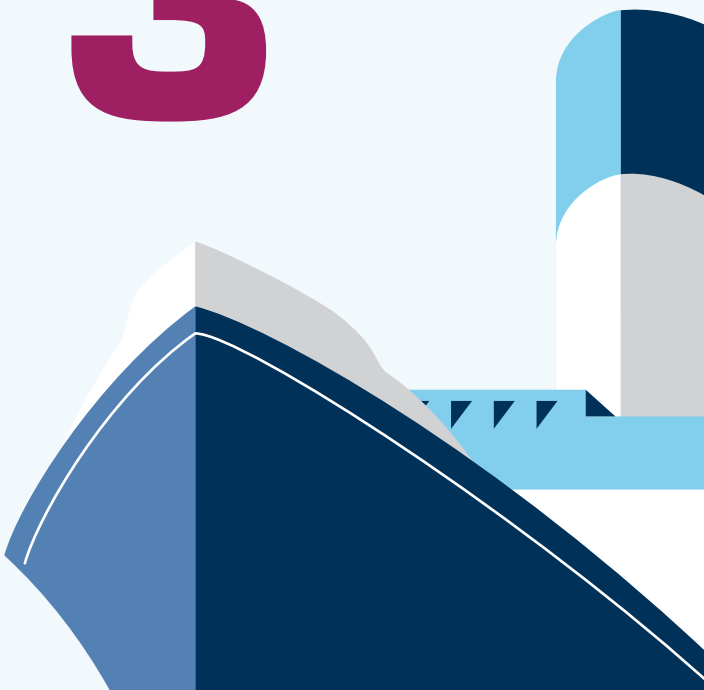


FREIGHT RATES AND MARITIME TRANSPORT COSTS

In 2017 and early 2018, the global shipping industry saw a marked improvement of fundamentals in most market segments, with the exception of the tanker market. Key drivers were the combined strengthening in global demand, on the one hand, and the reduced fleet growth, on the other. Overall, freight rates improved across all markets in 2017, with the exception of tankers.

Container freight rate levels increased, and averages surpassed performance in 2016. A better supply–demand balance in container ship markets, underpinned by stronger demand, was the main driver. The container shipping industry ended 2017 with a total profit of roughly $7 billion, driven mainly by a significant increase in transported volumes, freight rates and revenue, as well as proactive operational management discipline.

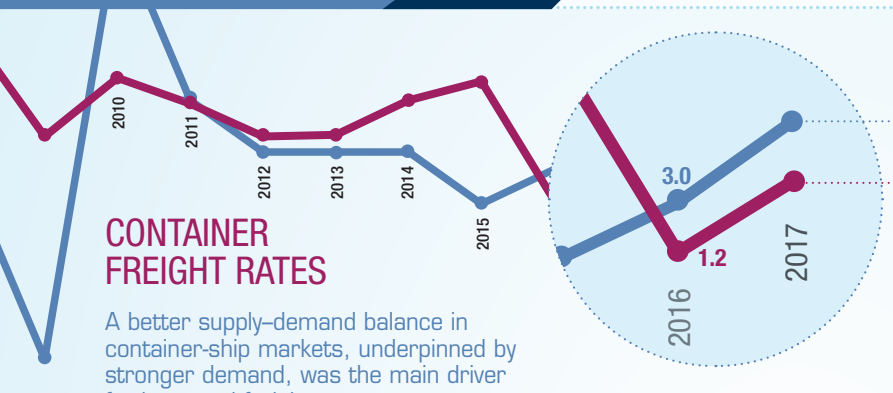
During the year, consolidation, whether in the form of alliances or mergers and acquisitions, persevered in the container industry in response to the negative environment that the industry has been facing in recent years. While outright negative impacts on trade and costs have not been reported, there are remaining concerns about the impact of growing market concentration on competition and the level playing field. Competition authorities and regulators, as well as transport analysts and international entities such as UNCTAD, should therefore remain vigilant. In this respect, the seventeenth session of the Intergovernmental Group of Experts on Competition Law and Policy held in Geneva in July 2018, provided a timely opportunity to bring together competition authority representatives and other stakeholders from the sector to reflect upon some of these concerns and assess their extent and potential implications for shipping and seaborne trade, as well as the role of competition law and policy in addressing these concerns. Delegates called upon UNCTAD to continue its analytical work in the area of international maritime transport, including the monitoring and analysis of the effects of cooperative arrangements and mergers not only on freight rates but also on the frequency, efficiency, reliability and quality of shipping services.

In 2017, the bulk freight market recorded a remarkable surge, which translated into clear gains for carriers, thereby compensating the depressed earnings of 2016. The improvement was largely driven by faster growth in seaborne dry bulk trade and moderate growth in supply. The tanker market was under pressure in 2017.

A key development is the current debate at IMO regarding the introduction of a set of short- to long-term measures to help curb carbon emissions from international shipping. Depending on the outcome of relevant negotiations and the specific design of any future instrument to be adopted, it will be important to assess the related potential implications for carriers, shippers, operating and transport costs, as well as costs for trade. It will also be important to consider the gains and benefits that may derive from these measures, including market-based instruments in shipping and how these could be directed to address the needs of developing countries, especially in terms of their transport cost burden and their ability to access the global marketplace. Some of the main developments at IMO to address greenhouse gas emissions from ships and issues, namely in the context of market-based instruments, are considered in this chapter.

FREIGHT MARKETS 2017

In 2017, freight rates improved across all markets, with the exception of tankers.



CONTAINER FREIGHT RATES

A better supply–demand balance in container-ship markets, underpinned by stronger demand, was the main driver for improved freight rates.

6.4%
DEMAND GROWTH

SUPPLY GROWTH
3.8%

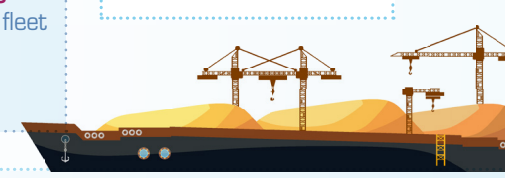
The container shipping industry ended 2017 with a total profit of
$7 billion.

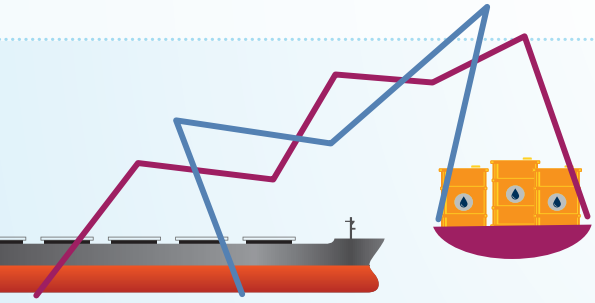
Average earnings increased in all fleet segments,
$10,986 per day.

DRY BULK FREIGHT RATES

recorded a remarkable surge, which translated into clear gains for carriers, thereby compensating the depressed earnings of 2016.

Seaborne dry bulk growth:
4.4%
Bulk carrier fleet growth:
3%





TANKER FREIGHT RATES

remained under pressure, mainly due to an increase in vessel supply that grew at a faster rate than demand growth.

Baltic Exchange dirty tanker index
8% growth
787 points

Baltic Exchange clean tanker index
24% growth
606 points

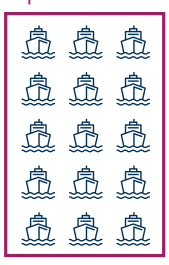
CONTAINER MARKET CONSOLIDATION

Consolidation, through mergers and acquisitions or alliances, persevered in the container industry in response to the negative environment and losses experienced by the industry in recent years.

MERGERS AND ACQUISITIONS

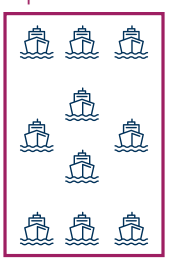
Their share has increased further with the completion of the operational integration of the new mergers in 2018.

January 2018
Top 15 carriers



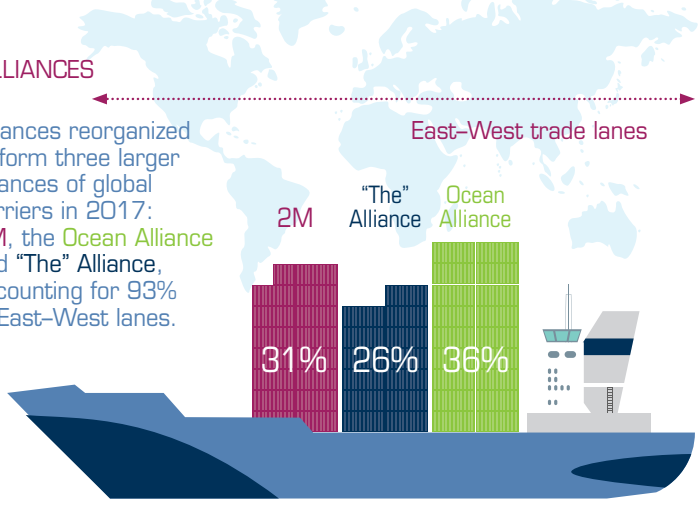
controlled
70%
of fleet capacity.

June 2018
Top 10 carriers



ALLIANCES

Alliances reorganized to form three larger alliances of global carriers in 2017: 2M, the Ocean Alliance and "The" Alliance, accounting for 93% of East–West lanes.



A. CONTAINER FREIGHT RATES: CONSIDERABLE MARKET IMPROVEMENTS

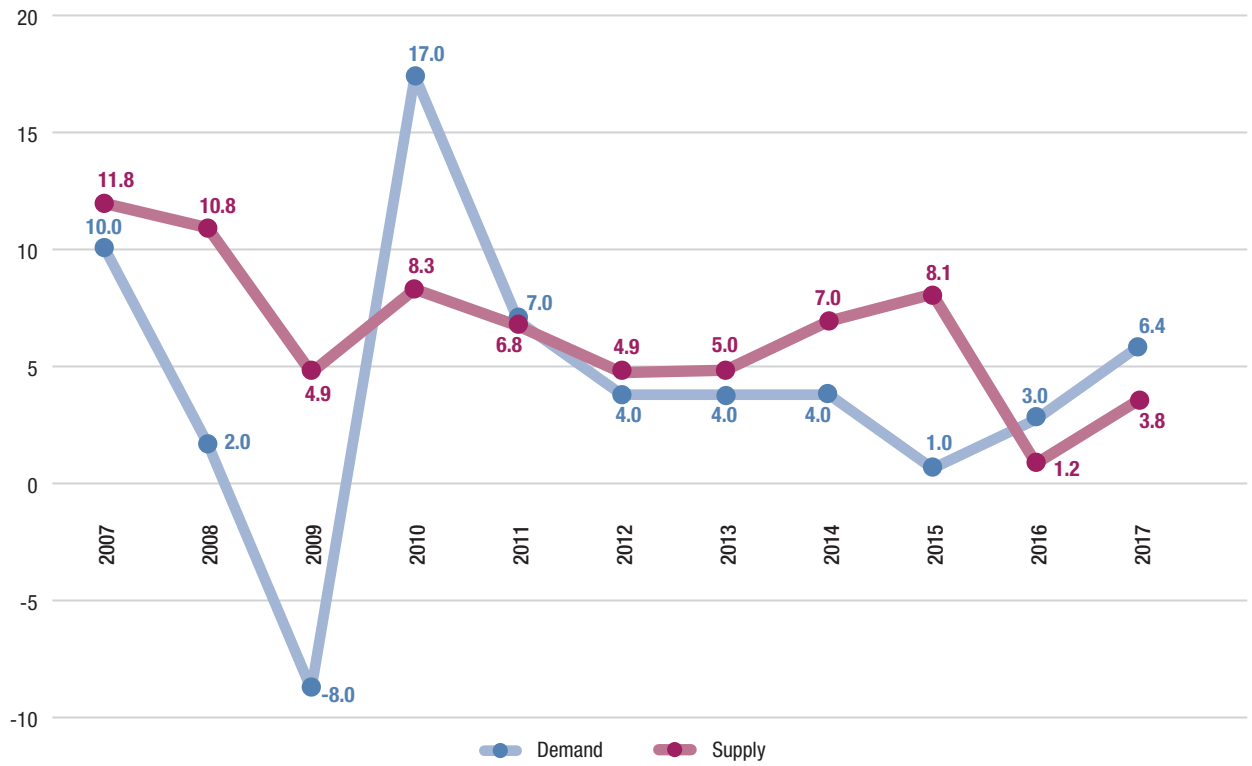
1. Overview

The container freight market improved considerably, following a difficult market environment in 2016. As illustrated in figure 3.1, global container demand grew at 6.4 per cent in 2017, taking total volumes to an estimated 148 million TEUs. The strong development in global container shipping demand in 2017 reflects a fundamental improvement in the global economic environment. Demand growth was particularly high in the first three quarters of the year, although it slowed down in the last quarter. UNCTAD projects global containerized trade to expand at a compound annual growth rate of 6.4 per cent in 2018 supported by the positive economic trends (see chapter 1).

Global supply of container ship-carrying capacity, on the other hand, grew at an estimate of 2.8 per cent, bringing the total global capacity to 256 million dwt (see chapter 2). Although supply growth was relatively moderate, the container market continued, nevertheless, to struggle with the delivery of mega container ships and surplus capacity among the larger vessels (exceeding 14,000 TEUs). World fleet capacity is projected to rise by 3 per cent in 2018 (see chapter 2).

Eventhough the supply of global container ship capacity continued in 2017, freight rates made a remarkable recovery from the lows recorded in 2016. This performance was supported by the upturn in the global demand for container transport services in 2017 across all trade lanes. As shown in table 3.1, freight rates on the mainlane trades routes went up, although they remained volatile, with a drop in the second half due to low demand growth. The surge was driven mainly by positive market trends in the developed regions. During the year, the United States and the European Union recorded economic growth and higher import demand (see chapter 1). Average trans-Pacific spot freight rates increased by 16.7 per cent, with the Shanghai–United States West Coast routes averaging $1,485 per 40-foot equivalent unit (FEU). Rates on the Shanghai–United States East Coast route increased by 17.3 per cent over 2016 and averaged $2,457 per FEU. On the Shanghai–Northern Europe route, average rates stood at $876 per TEU, up by 27 per cent, whereas Shanghai–Mediterranean rates averaged $817 per TEU, an increase of 19.4 per cent over the previous year.

Figure 3.1 Growth of demand and supply in container shipping, 2007–2017
(Percentage)



Source: UNCTAD secretariat calculations, based on data from chapter 1, figure 1.5 for demand and Clarksons Research, *Container Intelligence Monthly*, various issues, for supply.

Notes: Supply data refer to total capacity of the container-carrying fleet, including multipurpose vessels and other types of vessel with some container-carrying capacity. Demand growth is based on million TEU lifts.

On the non-mainlane routes, robust growth in all trade clusters supported the positive development of freight rates, which rose sharply in 2017, outperforming those on the mainlane trade routes. Among the North–South routes, the Shanghai–South Africa (Durban) freight rates averaged $1,155 per TEU, an increase of almost 98 per cent compared with 2016. The Shanghai–South America (Santos) annual freight rates reached an average of $2,679 per TEU, an increase of 62.7 per cent over the 2016 average. These surges were mainly driven by large growth in demand from oil and commodity-exporting countries following the 2017 improvements in the commodity price environment (see chapter 1).

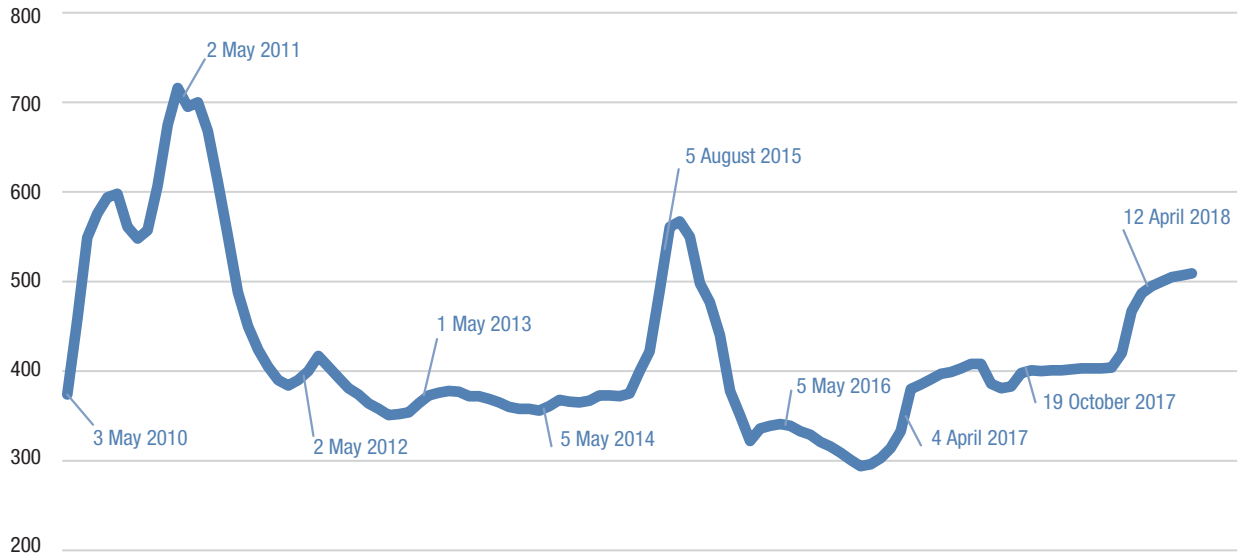
With regard to the intra-Asian routes, the Shanghai–Singapore route averaged $148 per TEU, compared with $70 per TEU in 2016, a 111.4 per cent increase. These rates were supported by continued positive trends in the Chinese economy, as well as in other emerging economies in the region.

Table 3.1 Container freight markets and rates, 2010–2017

Freight market	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
Trans-Pacific	**(Dollars per 40-foot equivalent unit)**							
Shanghai–United States West Coast	2 308	1 667	2 287	2 033	1 970	1 506	1 272	1 485
Percentage change	68.2	-27.8	37.2	-11.1	-3.1	-23.6	-15.5	16.7
Shanghai– United States East Coast	3 499	3 008	3 416	3 290	3 720	3 182	2 094	2 457
Percentage change	47.8	-14.0	13.56	-3.7	13.07	-14.5	-34.2	17.3
Far East–Europe	**(Dollars per 20-foot equivalent unit)**							
Shanghai–Northern Europe	1 789	881	1 353	1 084	1 161	629	690	876
Percentage change	28.2	-50.8	53.6	-19.9	7.10	-45.8	9.7	27.0
Shanghai–Mediterranean	1 739	973	1 336	1 151	1 253	739	684	817
Percentage change	24.5	-44.1	37.3	-13.9	8.9	-41.0	-7.4	19.4
North–South	**(Dollars per 20-foot equivalent unit)**							
Shanghai–South America (Santos)	2 236	1 483	1 771	1 380	1 103	455	1 647	2 679
Percentage change	-8.0	-33.7	19.4	-22.1	-20.1	-58.7	262.0	62.7
Shanghai–Australia/ New Zealand (Melbourne)	1 189	772	925	818	678	492	526	677
Percentage change	-20.7	-35.1	19.8	-11.6	-17.1	-27.4	6.9	28.7
Shanghai–West Africa (Lagos)	2 305	1 908	2 092	1 927	1 838	1 449	1 181	1 770
Percentage change	2.6	-17.2	9.64	-7.9	-4.6	-21.2	-18.5	49.9
Shanghai–South Africa (Durban)	1 481	991	1 047	805	760	693	584	1 155
Percentage change	-0.96	-33.1	5.7	-23.1	-5.6	-8.8	-15.7	97.8
Intra-Asian	**(Dollars per 20-foot equivalent unit)**							
Shanghai–South-East Asia (Singapore)	318	210	256	231	233	187	70	148
Percentage change		-34.0	21.8	-9.7	0.9	-19.7	-62.6	111.4
Shanghai–East Japan	316	337	345	346	273	146	185	215
Percentage change		6.7	2.4	0.3	-21.1	-46.5	26.7	16.2
Shanghai–Republic of Korea	193	198	183	197	187	160	104	141
Percentage change		2.6	-7.6	7.7	-5.1	-14.4	-35.0	35.6
Shanghai–Hong Kong SAR	116	155	131	85	65	56	55	—
Percentage change		33.6	-15.5	-35.1	-23.5	-13.8	-1.8	—
Shanghai–Persian Gulf/ Red Sea	922	838	981	771	820	525	399	618
Percentage change		-9.1	17.1	-21.4	6.4	-36.0	-24.0	54.9

Source: Clarksons Research, *Container Intelligence Monthly*, various issues.
Note: Data based on yearly averages.
Abbreviation: SAR, Special Administrative Region

Figure 3.2 New ConTex index, 2010–2018



Source: UNCTAD secretariat, based on data from the New ConTex index of the Hamburg Shipbrokers Association.
Notes: The New ConTex is based on assessments of the current day charter rates of six selected container ship types, which are representative of their size categories: Types 1,100 TEUs and 1,700 TEUs with a charter period of one year, and Types 2,500, 2,700, 3,500 and 4,250 TEUs with a charter period of two years. Index base: October 2007 = 1,000 points.

In an effort to address overcapacity and absorb the impact of surplus capacity, slow steaming and cascading were strongly maintained by carriers in 2017. Slow steaming is estimated to have absorbed some 3 million TEUs of nominal capacity since the end of 2008 (Clarksons Research, 2018a). Cascading capacity resulted in increasing the redeployment of larger ships across trade lanes (Clarksons Research, 2018a). Larger ships are deployed on mainlane trade routes, which require carriers to balance capacity and distribute ships onto secondary lanes, such as the North–South trade lanes. At the same time, and as noted in chapter 2, scrapping of vessels remained significantly high – 4.5 million gross tons were demolished in 2017. The average age of scrapped vessels stood at 21 years in 2017 (Clarksons Research, 2018a), an average that has been steadily falling over the years, from 33 years in 2008 to 26 years in 2016 (Hellenic Shipping News, 2017). Supported by demand growth, the level of container ship idling, which represented about 7 per cent of the active fleet in late 2016 and early 2017, reached about 2 per cent in late 2017 (Barry Rogliano Salles, 2018).

In line with developments concerning demand, supply and spot rates, the shipping charter market also improved in 2017, as rates increased in most sectors over the year, with some volatility and variation across vessel sizes. The 12-month charter rate increased to an average of 378 points, compared with 325 average points in 2016 (figure 3.2). Partly sustained by stronger container demand, this surge reflected the start of the new alliance structures requiring carriers to charter vessels to fill gaps while their networks were being formed. Another factor that drove up the rates was that carriers needed to fill short-term capacity requirements, while awaiting the delivery of new ships. Orient Overseas Container Line, for instance, hired some ships with a capacity of 11,000 TEUs from Costamare to operate on the Asia–North Europe trade route pending the arrival of new units with a capacity of 20,000 TEUs (JOC.com, 2017).

The container ship charter market got off to a good start in 2018. The new ConTex index increased to an average of close to 500 points in April 2018, the highest since August 2015. Nevertheless, there are still concerns about the potential cascading effect of larger vessel sizes with the delivery of new mega vessels, as well as the impact of market consolidation on vessel employment by major carriers, which may seek to rationalize supply capacity, or use their own tonnage and seek to off-hire chartered ships to control fleet supply (The Loadstar, 2018).

2. Global container shipping: A year of positive growth and profits

Following a year of losses in 2016, the container shipping industry ended 2017 with a total profit of roughly $7 billion (Drewry, 2018), driven mainly by a significant increase in transported volumes, freight rates and revenue, as well as proactive and disciplined operational management. CMA CGM recorded the best operating results in container shipping, with core earnings before interest and taxes reaching $1.575 billion (CMA CGM, 2018a; CMA CGM, 2018b), followed by Maersk with gains of $700 million (A. P. Moller–Maersk, 2018). Hapag-Lloyd ranked third, with €410.9 million (about $480 million) (Hapag-Lloyd, 2018). The financial performance and relevant activities of selected carriers is summarized in box 3.1.

Box 3.1 Financial performance and relevant activities of the top three shipping lines, 2017

CMA CGM

In 2017, the financial situation of CMA CGM was characterized by an increase in revenue of 32.1 per cent, reaching $21.1 billion. Due to an increase in freight rates and volumes, its average revenue per TEU rose by 9 per cent over that of 2016.

Its core earnings before interest and taxes amounted to $1.575 billion, with a margin of 7.5 per cent core earnings before interest and taxes, up 7.3 points from the previous year. This was made possible by a rise in average revenue per TEU transported and control of unit costs, which rose slightly by 1.6 per cent, despite a sharp rise in fuel prices.

The shipping line recorded a net profit of $701 million in 2017, a sharp increase compared with 2016, when it posted a loss of $452 million.

CMA CGM carried nearly 19 million containers, an increase of 21.1 percent over 2016. This increase is driven by contributions of all the shipping lines operated by the Group, in addition to the first full-year contribution of American President Lines, which carried more than 5 million TEUs and contributed $340 million to the Group's operating income.

In October 2017, CMA CGM acquired Sofrana, an operator in the South Pacific islands, and in December, closed the acquisition of Mercosul Line, one of the main players in Brazil's domestic container shipping market.

On 1 April, the Ocean Alliance, the world's largest operational shipping alliance, boasting 40 services and more than 320 ships, was launched.

In 2017, the Group accelerated its digital transformation. Numerous initiatives have already been launched as part of the establishment of CMA CGM Ventures, which is devoted to corporate investments in innovative technologies, the development of partnerships with major e-commerce groups and other similar activities.

In 2017, CMA CGM took delivery of the *Antoine de Saint-Exupery*, the largest container ship flying the French flag. The vessel has a number of new environmentally friendly features, including an IMO-required ballast water treatment system to mitigate the transport of marine-invasive species. The vessel benefits from premium technologies such as the Becker Twisted Fin allowing improvements in propeller performance, helping reduce significantly the energy expenditure for a 4 per cent reduction in carbon dioxide emissions and a new-generation engine that significantly reduces oil consumption (less 25 per cent) and fuel consumption for a 3 per cent average reduction of carbon dioxide emissions.[a]

Maersk

Maersk's revenue increased by 14.9 per cent in 2017 to reach $23.8 billion, compared with $20.7 billion in 2016. This was mainly attributed to an increase in volumes and an average freight rate of 11.7 per cent.

Earnings before interest and taxes stood at $700 million in 2017, compared with a $396 million loss in 2016. Maersk reported a return to profit of $521 million in 2017, as opposed to a loss of $384 million in 2016. These results benefited from the shipping company's higher revenue and a unit cost at fixed bunker price almost on a par with results in 2016. The unit cost at fixed bunker price was, however, negatively affected by a cyberattack in the third quarter of 2017, as well as decreased headhaul utilization and lower backhaul volumes. Total unit costs increased by 4.9 per cent in 2017, attributed in large part to an increase in the average price of bunker fuel.

Transported volumes grew from 10.41 million FEUs in 2016 to 10.73 million FEUs in 2017, an increase of 3.0 per cent, despite the negative impact of the cyberattack. The increase in volume was driven by an increase in East–West volumes of 2.4 per cent; North–South volumes, of 2.2 per cent; and intraregional volumes, of 7.3 per cent.

The acquisition of Hamburg Süd and the divestment of Mercosul Line were completed in December 2017.

In the area of digitalization, Maersk launched a remote container management programme for customers in July 2017, which provides the location of refrigerated containers throughout its journey, as well as the atmospheric conditions inside each container. In January 2018, the A. P. Moller–Maersk Group and International Business Machines (IBM) announced their intent to establish a joint venture to provide more efficient solutions to digitalize supply chain documentation and secure methods for conducting global trade using blockchain technology.

Maersk took delivery of 5 of 11 second-generation Triple-Es and 4 of 9 vessels with a capacity of 15,200 TEUs, which had been ordered in 2015. The new vessels replaced older and less efficient vessels, and as part of this process, Maersk recycled 16 vessels in 2017.

Hapag-Lloyd

On 24 May 2017, the merger of Hapag-Lloyd and the United Arab Shipping Company took place, and operational integration of the United Arab Shipping Company Group was completed in late November. Owing to an increase in transport volumes and in average freight rates, as well as to the inclusion of the United Arab Shipping Company Group, Hapag-Lloyd reported €9.97 billion in revenue, compared with €7.73 billion in 2016. Freight rates averaged $1,051 per TEU, exceeding the previous year's level by 1.4 per cent (2016: $1,036 per TEU). Freight rate increases, particularly in the Far East, Middle East and Latin America trade routes, had a positive impact on earnings.

Hapag-Lloyd's operating results (earnings before interest and taxes) stood at €410.9 million (about $480 million) clearly above the previous year's level of €126.4 million. This resulted in an earnings before interest and tax margin of 4.1 per cent (prior year: 1.6 per cent).

Transported volumes rose by 29 per cent in 2017, reaching 9.803 million TEUs, compared with 7.599 million TEUs in 2016, primarily as a result of the acquisition of the United Arab Shipping Company. This also led to a significant increase in the average ship size and a reduction in the average age of vessels.

Transport expenses rose by €1,626 million to €7,990 million, compared with €6,364 million in 2016. This represents an increase of 25.5 per cent that is primarily due to the acquisition of the United Arab Shipping Company Group and related growth in transport volumes and higher bunker prices. At 19.9 per cent, transport expenses, not including bunker costs, increased at a much lower rate than the increase in transport volumes (29.0 per cent).

Container shipping utilizes information technology in processes such as yield management, shipping quotations, cargo volume management, the design of new shipment services and operation of empty legs. A digital channel and incubation unit was established in 2017 to develop new, digitally available services and business models.

Source: Carriers' annual reports (2017) and websites.

[a] https://shipinsight.com/articles/cma-cgm-takes-delivery-20600-teu-flagship-antoine-de-saint-exupery.

3. Consolidation persevered in the container market

In 2017, consolidation, through mergers and acquisitions or alliances persevered in the container industry in response to the negative environment and losses experienced by the industry in recent years. The world's leading container shipping lines recorded an estimated collective operating loss of $3.5 billion in 2016, their first annual deficit since 2011 (Lloyd's Loading List, 2017).

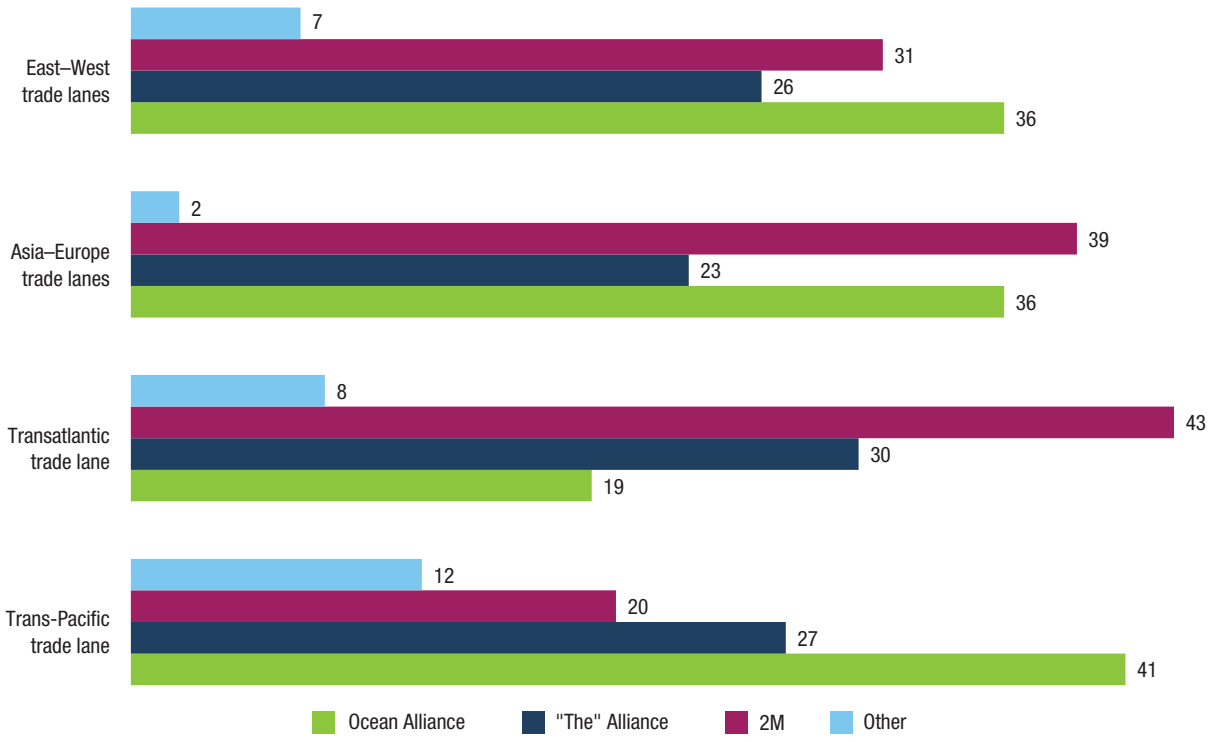
Key mergers and acquisitions in 2018 involved the merger of the Japanese container ship operator groups "K" Line (Kawasaki Kisen Kaisha), Mitsui Osaka Shosen Kaisha Lines and NYK Lines (Nippon Yusen Kabushiki Kaisha) to form Ocean Network Express and the planned merger of Orient Overseas Container Line with the China Ocean Shipping Company. Ocean Network Express will rank sixth in terms of global ranking by vessel capacity — a combined 1.53 million TEUs (above Evergreen's 1.1 million TEUs and just behind Hapag-Lloyd's 1.55 million TEUs) (see chapter 2). As of January 2018, the top 15 carriers accounted for 70.3 per cent of all capacity. The five leading carriers – Maersk, Mediterranean Shipping Company, CMA CGM, China Ocean Shipping Company and Hapag-Lloyd – control more than 50 per cent of market capacity. Their share has increased further with the completion of the operational integration of the new mergers in 2018, as the top 10 shipping lines controlled almost 70 per cent of fleet capacity as of June 2018 (see chapter 2).

Mergers, if well-conceived and accompanied by effective executional strategies, can deliver greater value and help carriers improve performance and operational synergies. For instance, cost synergies from the merger of Hamburg Süd and Maersk are expected to range from $350 million to $400 million by 2019, primarily from integrating and optimizing the networks, as well as standardizing procurement procedures (A. P. Moller–Maersk, 2018). Hapag-Lloyd, which merged with the United Arab Shipping Company in May 2017, estimates that it will generate $435 million in cost synergies from 2019 as a result of the merger (Hapag-Lloyd, 2017). China Ocean Shipping Company and Orient Overseas Container Line also foresee significant cost synergies, while maintaining separate brands (see www.hellenicshippingnews.com/container-shipping-more-mergers-better-mergers/).

Alliances of global carriers were restructured in 2017 to form three larger ones: 2M, the Ocean Alliance and "The" Alliance.[1] This reshuffling resulted in a highly concentrated market structure, mainly in the main trade lanes, where the three alliances collectively account for around 93 per cent of the East–West routes, leaving 7 per cent for the other smaller global and regional carriers (The Maritime Post, 2018). With regard to the deployed capacity of alliances on the three major East–West lanes combined, figure 3.3 shows that the Ocean Alliance is the largest, with a 36 per cent share of the market, followed by 2M, with 31 per cent, and "The" Alliance, with 26 per cent, based on data as at May 2018. The remaining 7 per cent is held by non-alliance members, whose deployed capacity varies by routes operated.

Compared with 2014, the average number of services provided by all liner shipping operators fell by 6 per cent to reach 474 in the second quarter of 2018, from 504 in the first quarter of 2014 (The Maritime Post, 2018). The number of services provided by members of the alliances, however, increased from 150 in in the first quarter of 2014 to 297 in the second quarter of 2018 (98 per cent increase). In contrast, services offered by other operators not members of an alliance decreased by 46.2 per cent, from 431 in the first quarter of 2014 to 232 services in the second quarter of 2018 (The Maritime Post, 2018). Although it is not clear whether the decrease in services has negatively affected the options available to shippers, this is a potentially

Figure 3.3 **Capacity deployed by alliances in principal East–West trade lanes, 2018**
(Percentage)



Source: MDS Transmodal, 2018.
Note: Data as of May 2018.

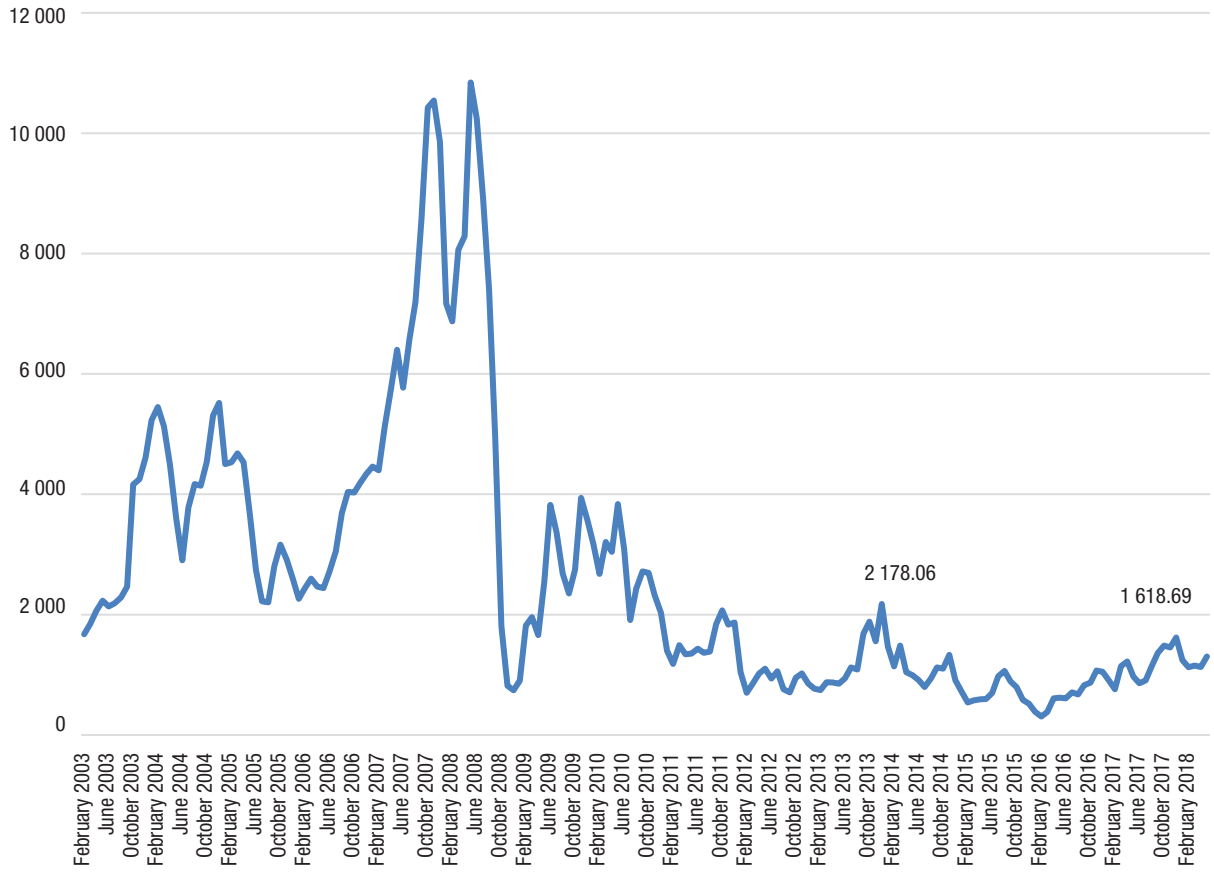
worrisome trend if sustained. The impact of increasing consolidation is also felt by smaller operators that do not belong to an alliance. Their share in deployed capacity is 2 per cent in the Asia–Europe trade lanes, 8 per cent in the transatlantic trade lane and 12 per cent in the trans-Pacific trade lane (figure 3.3). However, in many cases, many of these operators have a more regional focus and tend to be more active in niche markets or individual routes.

For shippers, increased consolidation means fewer carrier choices, less competition and ultimately, carriers in a better position to influence market prices and increase freight rates (see chapter 1). However, there has been no evidence of this having been achieved in 2017, as alliances' operations are still being defined, and the industry is still struggling to achieve economies of scale and lower operational costs, while improving supply-capacity utilization on certain routes that jeopardize the balance of market fundamentals in an uncertain world. Yet, and as noted in the two previous editions of the *Review of Maritime Transport*, there is still a risk that growing concentration and consolidation of the market will distort competition and will be detrimental to the market, freight rates and shippers. Therefore, the oversight role of competition authorities and regulators should be strengthened and their capacities reinforced to monitor the evolution of current alliances and to review mergers and acquisitions so as to ensure fair competition and prevent anticompetitive practices. Such practices may create a significant impact on smaller players with weak bargaining power, notably those from developing countries. At the same time, authorities and shippers would need to consider the quality, reliability and variety of services provided to shippers in addition to the effects of price competition. Competition authorities should also consider the effects on factors such as the range and quality of services, frequency of ships, range of ports serviced and reliability of schedules (UNCTAD, 2018).

B. DRY BULK FREIGHT RATES: NOTABLE RECOVERY

The dry bulk market underwent a remarkable recovery in 2017 . Growth in demand for seaborne dry bulk surpassed the fleet growth, as demand for commodities went up, while the surplus of vessels gradually continued to diminish. As noted in chapter 1, seaborne dry cargo shipments increased by 4.4 per cent in 2017, up from 2.0 per cent in 2016. Bulk carrier fleet growth, on the other hand, remained manageable at 3.0 per cent in 2017; deliveries declined to almost 20 million gross tons, and scrapping activities increased to more than 8 million gross tons (see chapter 2).

Figure 3.4 Baltic Exchange Dry Index, 2003–2018



Source: UNCTAD secretariat calculations, based on data from the Baltic Exchange.
Notes: The Index is made up of 20 key dry bulk routes measured on a time charter basis and covers Handysize, Supramax, Panamax and Capesize dry bulk carriers, which carry commodities such as coal, iron ore and grain. Index base: 1 November 1999 = 1,334 points.

Consequently, the Baltic Exchange Dry Index rebounded, especially after having experienced one of the weakest years in 2016 since the financial crisis. As shown in figure 3.4, the Index averaged about 1,153 points, reaching a peak of 1,619 points in December 2017, the highest level since 2013, when it had reached 2,178 points.

As a result, average earnings increased in all fleet segments, averaging $10,986 per day in 2017, up by 77 per cent from the depressed levels of 2016 (Clarksons Research, 2018b). The sector experienced a strong rebound in charter rates as growth in demand for commodities exceeded fleet expansion.

1. Capesize

The Capesize market improved significantly in 2017, driven largely by the surge in growth in the iron ore imports of China and a rebound in coal trade, which helped curb the level of supply capacity. Charter and freight rates improved substantially, as illustrated by the average Baltic Capesize Index of the four and five time charter routes, which recorded a high daily level of $14,227 and $15,291, respectively, twice the average rates of 2016 (figure 3.5).

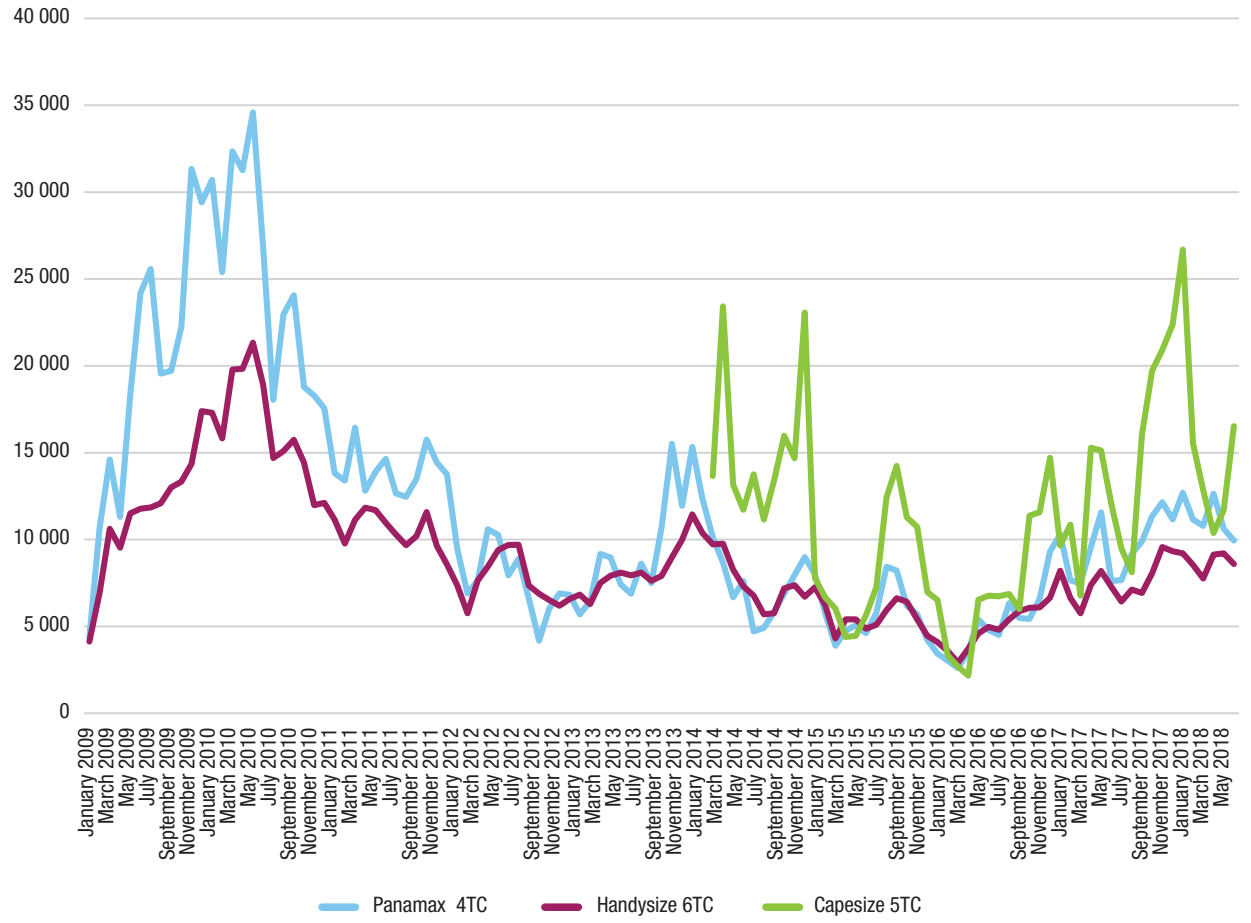
2. Panamax

Market conditions in the Panamax sector also improved markedly from the historically depressed levels of 2016, supported by an improvement in the supply–demand balance. The Baltic Panamax Index of the four time charter routes averaged at $10,570 per day in 2017, up by 75 per cent from the 2016 average. Improved demand supported by an expansion in coal and grain shipments and firm growth in key minor bulk commodities trade, prompted positive trends. At the same time, growth on the supply side remained moderate as the fleet increased by 2.7 per cent (Clarksons Research, 2018b).

3. Handysize and Supramax

Similarly, Handysize market conditions improved in 2017. The Baltic Supramax Index of the six time charter routes averaged $9,185 per day, up by 46 per cent ($6,270 per day), and the Baltic Handysize Index of the six time charter routes averaged $7,662 per day from $4,974 per day in 2016, a 54 per cent increase over 2016 (figure 3.5). More positive demand-side trends (growth in coal,

Figure 3.5 Daily earnings of bulk carriers, 2009– 2018
(Dollars per day)



Source: UNCTAD secretariat calculations, based on data from Clarksons Research Shipping and the Baltic Exchange.
Abbreviations: Panamax 4TC, average rates of the four time charter routes; Capesize 5TC, average rates of the five time charter routes; Handysize 6TC, average rates of the six time charter routes.

grain and minor bulk trade) and continued limited supply growth helped support these improvements. In 2018, improvements to the fundamental balance will sustain positive growth for dry bulk shipping rates.

C. TANKER FREIGHT RATES: A CHALLENGING YEAR

Overall, 2017 proved to be a challenging year for the tanker market, mainly because of the pressure faced by markets from continuous growth in supply capacity, particularly in the crude tanker sector that was matched by a relative deceleration in demand growth. It is estimated that global tanker trade expanded at an annual average growth rate of 3.0 per cent in 2017 (see chapter 1); the crude oil tanker fleet grew by 5 per cent and the product tanker fleet grew by 4.2 per cent (Clarksons Research, 2018c). Rapid growth in the capacity of tankers carrying crude oil and products has further affected market balance, particularly in the crude oil sector.

As a result, the Baltic index for crude oil (Baltic Exchange dirty tanker index) recorded 8 per cent growth in 2017, reaching 787 points. The Baltic Exchange clean tanker index progressed by 24 per cent from the low level of 2016, reaching 606 points (table 3.2).

Freight rates also remained weak for both crude and products transports during most parts of 2017.

Earnings in the tanker sector weakened further over 2017 (figure 3.6), particularly in the crude tanker sector. Average spot earnings in all sectors fell significantly, reaching an average of $11,655 per day, a drop of 35 per cent from 2016 and the lowest annual average level in 20 years (Clarksons Research, 2018c). Performance on key crude tanker trades was poor, largely attributable to a reduction in Western Asia's exports in line with production cuts led by the Organization of the Petroleum Exporting Countries, coupled with rapid growth and oversupply in the crude tanker fleet (Hellenic Shipping News, 2018). For very large crude carriers, this was translated into low earnings averaging $17,800 per day, down by 57 per cent from 2016.

Table 3.2 Baltic Exchange tanker indices, 2007–2018													
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Percentage change (2017/2016)	2018 (first half year)
Dirty tanker index	1124	1510	581	896	782	719	642	777	821	726	787	8	667
Clean tanker index	974	1155	485	732	720	641	605	601	638	487	606	24	577

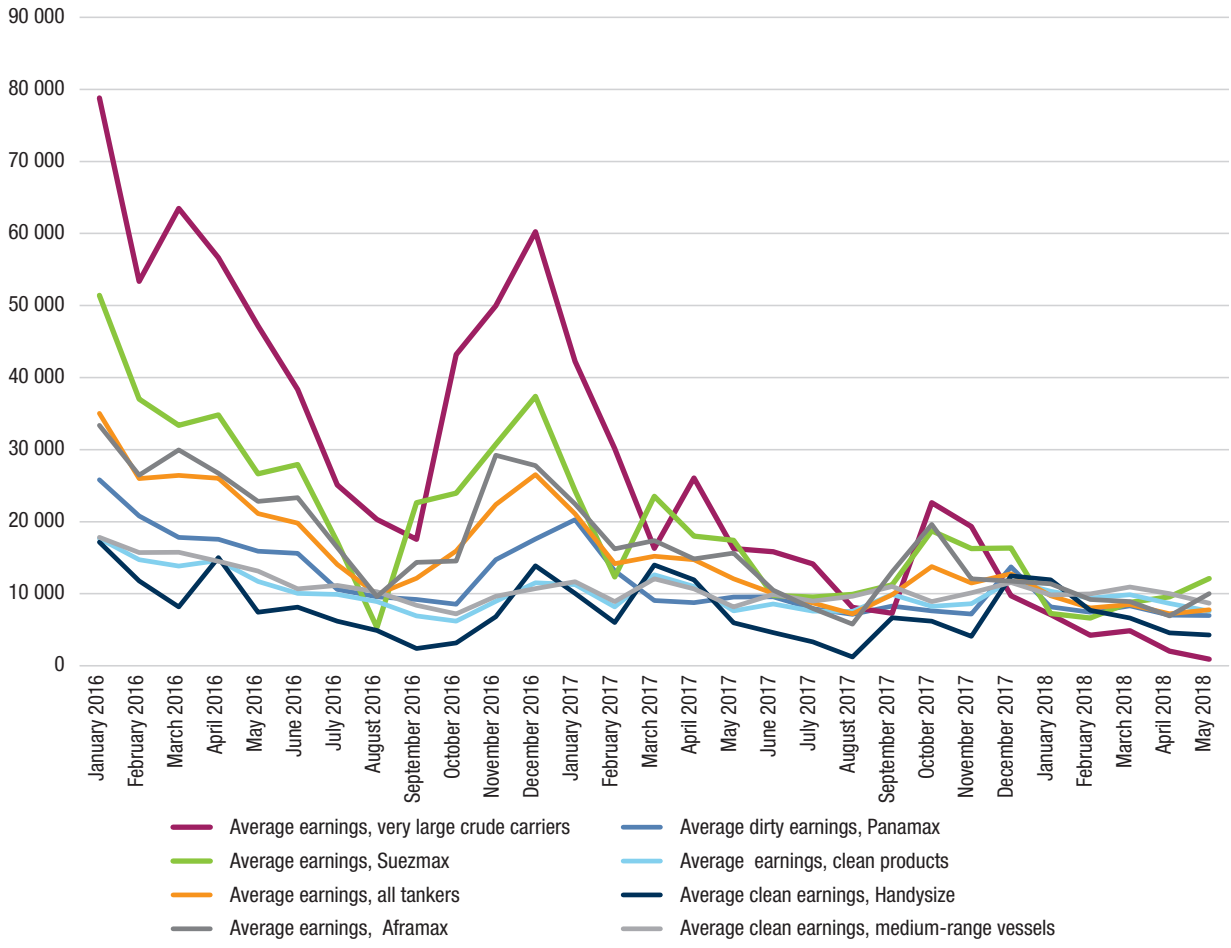
Source: Clarksons Research, 2018d.
Notes: The Baltic Exchange dirty tanker index is an index of charter rates for crude oil tankers on selected routes published by the Baltic Exchange. The Baltic Exchange clean tanker index is an index of charter rates for product tankers on selected routes published by the Baltic Exchange. Dirty tankers generally carry heavier oils – heavy fuel oils or crude oil – than clean tankers. The latter generally carry refined petroleum products such as gasoline, kerosene or jet fuels, or chemicals.

In the product tanker sector, market conditions remained fairly steady at relatively weak levels. Supply continued to grow at a rate of 4.2 per cent in 2017. Meanwhile, volumes of refined petroleum products and gas increased by 3.9 per cent, supported by firm intra-Asian products trade and robust growth in Latin American imports (chapter 1). The cumulative effect of supply growth in recent years continued to depress earnings. Product tanker rates, which dropped sharply in 2016, remained at low but stable levels throughout 2017. A one-year time charter on a medium-range 2 tanker fluctuated between $12,500 and $14,500 per day.

As a result of poor market conditions, scrapping increased in the tanker sector and contributed about 11.2 million dwt in 2017, which is four times higher than 2016, when only about 2.5 million dwt were demolished (Clarksons Research, 2018c). This high level of demolition also continued into 2018.

In 2018, tanker trade volumes are projected to increase, although at a slightly slower pace than other market segments. However, oversupply capacity should be effectively managed to improve market balance and freight rates.

Figure 3.6 Clean and dirty earnings, 2016–2018



Source: Clarksons Research.
Note: Aframax, Suezmax and very large crude carriers were built circa 2000.

Reflecting positive trends in demand and better management of the supply side, global shipping freight rates improved, despite some variations by market segment. The overall outlook remains positive in view of improved market fundamentals. However, for these prospects to materialize, the prevailing downside risks need to be effectively contained.

Another key development to observe, from the perspective of carriers and shippers and their financial stance, is the current debate at IMO regarding the introduction of a set of short- to long-term measures to help curb carbon emissions from international shipping. The outcome of relevant negotiations and the specific design of any future instruments to be adopted may have implications for carriers, shippers, operating and transport costs, and costs for trade. It will therefore be important to assess those implications and consider the gains and benefits that may derive from future instruments, including market-based instruments in shipping. Further, it will be important to ascertain how they could be directed to address the needs of developing countries, especially in terms of their transport cost burden and their ability to access the global marketplace. In this context, the following section outlines some key measures taken at IMO to address greenhouse gas emissions from ships, as well as issues for consideration, particularly with regard to market-based instruments.

D. GREENHOUSE GAS EMISSIONS REDUCTION IN SHIPPING: MARKET-BASED MEASURES

In April 2018, at the seventy-second session of the Marine Environment Protection Committee, IMO adopted a strategy on the reduction of greenhouse gas emissions from ships in line with the Paris Agreement under the United Nations Framework Convention on Climate Change and its ambition to maintain the global temperature rise well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius (see chapter 5). The IMO strategy sets out a vision to decarbonize the shipping sector and phase out greenhouse gas emissions from international shipping as soon as possible in this century, with the aim to reduce total annual greenhouse gas emissions by at least 50 per cent by 2050 compared with 2008 levels, while, at the same time, pursuing efforts towards phasing them out entirely. The strategy also sets to decrease the sector's average carbon intensity by at least 40 per cent until 2030, and 70 per cent by 2050.

Several short-, mid- and long-term measures are being considered as part of a comprehensive package of actions, including measures to improve energy efficiency and to stimulate the uptake of alternative fuels, while ensuring equity through the guiding principle of common but differentiated responsibilities and respective capabilities.[2] Market-based measures such as fuel levies and emissions trading systems are also considered part of the medium-term solutions (box 3.2).[3] Any set of measures that would be adopted by IMO would entail some financial implications for the sector. Consequently, the net impact of these multiple measures is likely to have some influence on transport rates and costs but how exactly this net impact will appear would require further analysis. This section will discuss some of the general concepts of market-based measures and its implication in the shipping sector. (For an assessment of some of the market-based measures proposals submitted to IMO between 2010 and 2012, see Psaraftis (2012).)

1. Policy levers for successful market-based measures

Similar to other measures, emissions-trading schemes and carbon levies have their advantages and disadvantages. It has yet to be determined at IMO

Box 3.2 Market-based measures

The market-based measures most commonly referred to are emissions-trading systems and carbon levies.

There are two main types of **emissions trading systems**:

- The cap-and-trade system, where a maximum amount of allowed emissions is determined (emissions cap), and emissions allowances (normally each one representing the right to emit one ton of carbon dioxide) are auctioned (market-based price setting-approach) or distributed for free according to specific criteria ("grandfathered").
- The baseline-and-credit system, where no maximum amount of emissions is set. An emissions intensity for emitting activities is set against a baseline, which can be business as usual or some proportion thereof. Polluters emitting less than the baseline would earn credits that they can sell to others who need them to comply with emission requirements.

A **carbon levy** directly fixes a price for carbon dioxide (usually per ton as in an emissions trading system) and can be applied as a fuel levy on the carbon content of fossil fuels. As opposed to an emissions trading system, the emissions reduction outcome is not predetermined but the carbon price is (non-market-based price setting).

Sources: Carbon Pricing Leadership Coalition, 2018; Organization for Economic Cooperation and Development, 2018.

whether, in addition to other policies (for example policies focused on efficiency or fuels), market-based measures are a cost-effective enabler of shipping decarbonization. Further, it is not clear what specification of market-based measures would be best suited to achieve the decarbonization target, while being politically acceptable to relevant stakeholders. The upsides and downsides of key policy levers of market-based measures are discussed in the following paragraphs, and an overview is provided in figure 3.7.

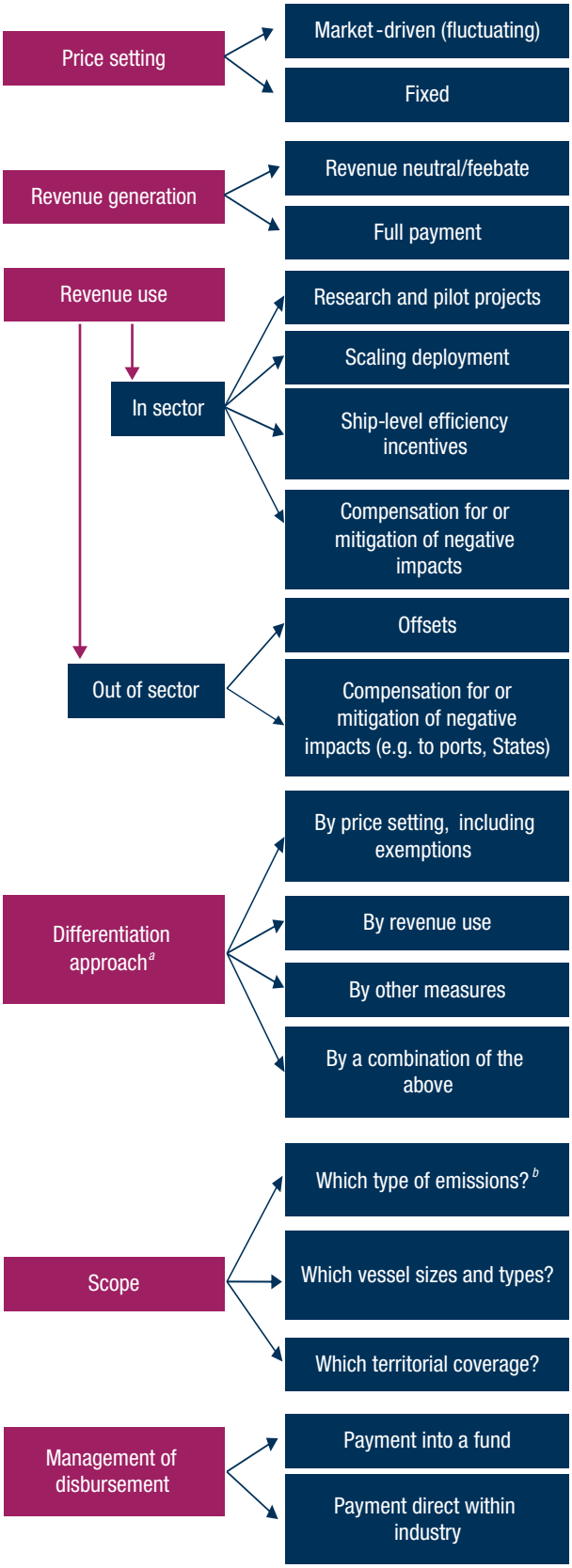
Price-setting mechanism

Market-based price setting under an emissions cap has the implicit advantage of a guaranteed environmental outcome – only a predetermined amount of emission allowances are released into the market. The allowance price is then developed as a function of market demand (cap and trade) and fluctuates over time. With the price of emissions being directly set by the market, it adjusts automatically to the current costs of avoiding greenhouse gas emissions. A downside is the uncertainty of the price compared with a levy system. Existing emissions-trading schemes have a history of weak prices due to an oversupply of emissions certificates – too many allowances were allocated free of charge out of competitiveness concerns, and demand was overestimated, given unforeseen market developments such as the financial crisis of 2007 and an unexpectedly quick adoption of low-carbon technologies. Provisions to adjust the price were not part of the scheme architecture. As a result, the price signal was not as strong as expected to provide the desired incentive to invest in low-carbon technologies. In a high-demand scenario, on the other hand, prices may surge, especially when the sector comes close to reaching the emissions cap. Among the shortcomings of an emissions-trading scheme is the relative complexity of the system that could undermine smaller companies' competitiveness. For carbon levies, advantages and disadvantages are inverted: Investment security is higher, and transaction costs are lower, but the environmental outcome is not guaranteed. However, the choice between a fixed-quantity approach (emissions-trading system) and a fixed-price approach (levy) is not absolute. In emissions trading, the outcome is certain but the price will not be known in advance. With a fixed levy, the price is known but the effect on emissions is not. An emissions-trading system could have a floor price, and a levy could be regularly reset to reflect recent market developments.

Revenue generation

In addition to the price level, the amount of revenues generated by market-based measures depends on whether emissions charges are calculated based on total or partial emissions. One approach is to require carriers to pay for all greenhouse gas emissions generated by bunker fuel combustion. Alternatively, only the difference to an emissions benchmark per ship

Figure 3.7 Selected policy options for the design of market-based measures



Source: UNCTAD secretariat, based on a categorization proposed by Tristan Smith, University College London.

[a] Common but differentiated responsibilities and respective capabilities.

[b] Only carbon dioxide or all greenhouse gas emissions.

could be charged, and the revenues distributed to the vessels emitting less than the benchmark (feebate). This would limit the amounts collected – thus alleviating the impact on transport costs and trade distortion and consequently the need for compensatory action, while continuing to provide a strong incentive to increase efficiency. Nevertheless, establishing a metric for the benchmark could prove to be complex.

Collecting revenue for all emissions instead of the balance to a benchmark could be less complex to implement at the policy level, and the challenge of establishing a metric for the benchmark may be avoided. Clearly, the revenue raised from all emissions would be higher, which in turn would provide more funds to support decarbonization in broader ways. A major disadvantage would be the stronger transport cost and trade distortion impact, given the higher amount of carbon allowances to be purchased.

Revenue use and differentiation

Revenues generated by the proposed market-based measures could be used by the maritime transport sector (in sector) to accelerate the development of clean and efficient technology. Revenues generated could be used to support research and pilot projects, scale up the deployment of relevant technologies and thus enable new technologies to reach economies of scale and become competitive. Funds could also be used to provide incentives for ships by distributing some revenues to vessels considered to be more efficient and to have a lighter carbon footprint. This can provide an incentive to shipowners and operators to further invest and implement relevant technologies and solutions. The funds could also be used outside the maritime transport sector (out of sector). Examples include using the funds as carbon offsets by financing greenhouse gas emissions reduction measures in other sectors that would compensate for shipping emissions. The funds could also be used to compensate or mitigate the negative impact of some greenhouse gas emissions reduction measures.

Any carbon-pricing instrument, however, should reflect the IMO principle of non-discrimination and no more favourable treatment between ships, as well as the principle of common but differentiated responsibilities and respective capabilities applied under the United Nations Framework Convention on Climate Change, including under the Paris Agreement. The guiding principles of the initial IMO strategy on the reduction of greenhouse gas emissions state that the strategy will be cognizant of both these approaches (IMO, 2018). The differentiation could be delivered by various means: The allowance price could be differentiated by ship type, ship size or route – with an exemption effectively representing a price of zero, and/or the revenue use be handled along the common but differentiated responsibilities and respective capabilities principle. In this variant, the revenue could be used to compensate for or mitigate negative impacts from the greenhouse gas emissions reduction scheme, such as an increase in transport costs. The revenue could be disbursed to States to absorb negative impacts on imports or exports, to shipowners or shipyards to build a clean fleet, to port and other transport infrastructure operators to improve efficiency and bring down transport costs at their respective level of the supply chain or to fuel suppliers to develop low-carbon fuels. All these options pose a risk of improper usage of funds and may create market distortion. On the other hand, funds could be directed to support investments in the transport systems of developing countries.

Scope and enforcement

In general, the scope of a greenhouse gas emissions-reduction scheme for shipping should cover various elements. For instance, should the scheme cover all greenhouse gas emissions or only carbon dioxide? Which vessel sizes and types should be considered? Should emissions from international sea transport be the only emissions included or should domestic shipping also be taken into account? Should the price be set per unit of fuel or per ton of carbon dioxide? In addition, a strong and reliable audit and enforcement system is required. Compliance could be checked by port State control by means of the bunker delivery note, the oil record book or the IMO data collection system.

2. The impact of carbon prices on freight rates

Assessing the effects of carbon-pricing schemes that may be adopted in maritime transport and understanding the potential implications for transport and trade requires further analytical work. Existing research should provide some relevant insights. In a survey conducted by Lloyd's Register and University Maritime Advisory Services (2018), some 75 per cent of shipowners agreed that a carbon price was needed, and that most would be willing to pay $50 per ton of carbon dioxide. The International Monetary Fund estimates that a carbon price higher than this, reaching $75 per ton by 2030, would reduce emissions in that year by about 15 per cent compared with a business as usual scenario and by about 11 per cent compared with 2008 levels (Parry et al., forthcoming). To reach the goal of 50 per cent or more by 2050, analysis carried out by University College London reveals that a carbon price of $100–$300 per ton of carbon dioxide would be necessary for the related technology to be competitive. This assumes no complementary policies other than those already in place and production of maritime fuels with electricity prices equivalent to some of the lowest prices today. The estimate is lower than previous analyses and takes into account the expected increase in fuel costs due to the global cap on sulphur content, which will take effect in 2020. The combustion of one ton of oil-based bunker

fuel produces about three tons of carbon dioxide (IMO, 2008).

The impact of a universal carbon price on emissions from maritime transport on freight rates and transport costs would depend on several parameters, including market structure, trade routes and cargo type. According to Kosmas and Acciaro (2017), the carrier can pass on the additional cost to shippers in a demand-driven market, whereas this is less true in a supply-driven market. This is demonstrated by a comparison of market conditions in 2006–2007, characterized by high demand and elevated freight rates, and 2012–2013, when there was high overcapacity. If a hypothetical fuel levy had been introduced in 2006–2007, 48 per cent of the levy would have been borne by carriers, and 52 per cent by shippers. In the overcapacity situation of 2012–2013, it is estimated that 90.3 per cent would have been borne by carriers, and 9.7 per cent by shippers. However, the authors noted that operational fuel-efficiency practices such as slow steaming would also increase, lessening the amounts due for the levy.

Studies focusing on the impact of bunker fuel cost increases on freight rates provide some indication of the potential implications of a carbon price, including in the form of a fuel levy. UNCTAD estimated the correlation between fuel prices and maritime freight rates from 1993 to 2008 and concluded that freight rates were sensitive to changes in fuel price, with variations by market segment (UNCTAD, 2010). The analysis showed a price elasticity of 0.17 to 0.34 of container freight rates in response to Brent crude oil prices (a good proxy for bunker fuel prices) over the time period covered. Therefore, a 10 per cent increase in shipping fuel costs would lead to an increase of 1.7–3.4 per cent in container freight rates. In times of higher oil prices, such as between 2004 and 2008, the elasticity tended to be at the upper level of the range. Vivid Economics (2010) put forward an estimate for different types of cargo and found on average an elasticity of 0.37 for very large crude carriers, 0.25 for Panamax grain carriers, 0.96 for Capesize ore carriers and 0.11 for container ships.

Costs arising from carbon pricing are likely to be route specific, and their extent will be influenced by other factors that determine shipping rates and transport costs. These include distance, trade imbalances, features of the products shipped (low-value high-volume goods are particularly sensitive to fuel prices), availability of slow steaming as a shock absorber, efficiency of ships deployed (newer and larger vessels tend to be more efficient) and port characteristics (UNCTAD, 2015; Vivid Economics, 2010). In the future, the question of who has access to low-cost renewable energy sources for biomass- and electricity-based fuels will also play a role in terms of transport cost (Lloyd's Register and University Maritime Advisory Services, 2018).

International transport costs are a crucial determinant of a developing country's trade competitiveness and often represent a constraint to greater participation in international trade. For the least developed countries, transport costs represented 21 per cent of the value of imports in 2016, and 22 per cent, for small island developing States, as opposed to 11 per cent for developed economies (UNCTAD, 2017). While it is essential to meet greenhouse gas emissions reduction targets in maritime transport, it is also important to consider the special needs of the most vulnerable economies that face acute logistical challenges and high transport costs hindering their market access and driving up their transport costs and import expenditure. These economies include, in particular the least developed countries and small island developing States. Accounting for the varied conditions and the wide-ranging market structures will help ensure that any market-based measures introduced would not increase the import bill or undermine the potential of developing countries to participate in global value chains and trade. If, for example, small island developing States were to lose export competitiveness because of carbon costs, and could not substitute imports with local production, this would drive transport costs up even further due to empty returns (UNCTAD, 2010).

As ongoing research work and discussions on potential mitigation policies under IMO continue, the international community – carriers, shippers, policymakers and others – needs to further discuss and assess the various options available and promote the adoption of widely accepted solutions to ensure effective implementation. Delays in implementing a robust low-carbon trajectory will increase the time pressure and require a rapid reduction in emissions in future. This in turn may drive up costs, especially given the locked-in investments in the transport sector.

Besides a timely entry into force, another cornerstone of any future market-based measure adopted under the auspices of IMO relates to the design and structure of the measure. It should be flexible to allow adaptability to changing market trends and realities. Although projections are pointing to a positive outlook, how maritime transport demand will evolve over the next 30 years will be subject to a high degree of uncertainty, owing to the numerous downside risks and emerging trends that entail both challenges and opportunities for the maritime transport sector (see chapters 1, 2 and 5). Any forthcoming mitigation measures or underlying policy frameworks should therefore be flexible to adapt to a fast-changing operating and regulatory landscape, while ensuring a price signal that incentivizes investment and generates revenues. Such funds could be used as investments to reduce transport costs, especially in developing countries, where such costs can be prohibitive and often serve as a stronger barrier to trade than tariffs.

E. OUTLOOK AND POLICY CONSIDERATIONS

In 2017, freight rate levels improved significantly and, with the exception of the tanker market, reached levels above the performances recorded in 2016. The recovery in rates reflected a strengthening of global demand, combined with a deceleration in fleet capacity growth. Together, these factors resulted in overall healthier market conditions. Despite the marked improvement, the sustainability of the recovery remains at risk. This is due to the high volatility and relatively low levels of freight rates, as well as the potentially dampening effect of downside risks weighing on the demand side and the risk of inadequate supply capacity management.

UNCTAD projects global containerized trade to expand at a compound annual growth rate of 6.4 per cent in 2018 and 6.0 per cent between 2018 and 2023 (see chapter 1). Growth of global ship supply capacity is expected to remain fairly moderate over the next few years. World fleet capacity is projected to rise by 3 per cent in 2018; a growing share of additional capacity will be attributed to larger-size vessels (see chapter 2). Based on these projections, market balance should continue improving in the short term. Freight rates may benefit accordingly, although supply-side capacity management and deployment remain crucial, given the ongoing delivery of and new orders for mega vessels.

However, it is unlikely that in 2018 the industry will report the healthy profit estimated in 2017: despite the improvements observed in freight rates, the latest increase in fuel prices might affect the profitability of shipping lines.

The trend toward liner consolidation with mergers and acquisitions and realignment of the alliances among carriers continues in line with market conditions in 2018. Companies are likely to continue to seek opportunities to increase their market shares, improve efficiency and deal with intensifying competition and persistent oversupply. Consolidation through alliances would allow shipping companies to pool their resources and increase efficiencies. Larger shipping lines would aim to rationalize their resources in an alliance, whereas smaller lines would be able to enjoy the extended service coverage without having to invest in a larger fleet (Freight Hub, 2017). However, those that are not part of an alliance may be at a competitive disadvantage, as they may not be able achieve the cost efficiencies required to compete with members of an alliance. On the other hand, niche carriers that have a specific focus on a market or region and do not compete with larger firms on the main trade lanes may not feel the threat (World Maritime News, 2017).

The impact of consolidation has yet to be fully understood. While outright negative impacts on trade and costs have not been reported, there are remaining concerns about the impact of growing market concentration on competition and the level playing field. However, it may be argued that larger lines can offer more services and make relevant investments including in technology, which in turn could drive down costs through greater economies of scale and higher levels of efficiency. Some experts say that the larger the line, the easier it is to change the network offering which translates into more flexibility and adaptability to changing market conditions (The Maritime Post, 2018).

Competition authorities and regulators as well as transport analysts and international entities such as UNCTAD should remain vigilant by continuing to monitor consolidation activity and assess the market concentration level and the potential for market power abuse by large shipping lines and the related impact on smaller players and potential implications in terms of freight rates and other costs to shippers and trade. An analysis of mergers and alliances should consider not only the effects of price competition, but also the variety and quality of services provided to shippers. Competition authorities should take into account the effects on the range and quality of services, frequency of ships, range of ports serviced, reliability of schedules and efficiency. In this respect, the seventeenth session of the Intergovernmental Group of Experts on Competition Law and Policy included a round-table discussion on challenges in competition and regulation faced by developing countries in the maritime transport sector. This provided a timely opportunity to bring together representatives of competition authorities and other stakeholders from the sector to reflect upon some of these concerns and assess the extent and potential implications for competition, shipping and seaborne trade, as well as the role of competition law and policy in addressing these concerns (UNCTAD, 2018).

With regard to the prospects of the various market segments, the dry bulk market is set to further improve in 2018, supported by projected growth (5.2 per cent compound annual growth rate in 2018 and 4.9 per cent between 2018 and 2023) and the more subdued projected growth (3 per cent) in the bulk carrier fleet. Together, these improvements to the fundamental balance will sustain positive dry bulk shipping rates in 2018. That said, downside risks remain, such as the trade policy risks identified in chapter 1, in particular the impact of United States tariffs on steel and aluminium from Canada, Mexico and the European Union. Tanker trade volumes are also projected to increase, although at a slightly slower pace than other market segments. However, overcapacity may continue to depress the conditions in the tanker shipping freight market.

Of particular relevance for transport costs and shippers' expenditure on sea carriage are the ongoing developments in IMO that might result in market-based measures aimed at reducing carbon emissions from shipping as part of a comprehensive package of mitigation actions. As research work and discussions

on potential mitigation policies to be adopted under the auspices of IMO continue, the international community – industry, shippers, trade, policymakers and others – needs to further discuss and assess the various options available and promote the adoption of widely accepted solutions to ensure effective implementation. Delays in implementing a robust low-carbon trajectory will increase the time pressure and require a rapid reduction in emissions. This in turn, may drive up costs, especially given locked-in investments. Besides a timely entry into force, another cornerstone of any future market-based measures adopted under the auspices of IMO relates to design. The latter should be flexible to allow adaptability to market developments. Although projections tend to be positive, the issue of how global and local maritime transport demand will evolve over the next 30 years is subject to a high degree of uncertainty, driven by a wide range of prevalent downside risks and emerging trends that will bring challenges and opportunities for the maritime transport sector (see chapters 1, 2 and 5). Any mitigation policy should therefore be flexible to adapt to fast-changing operating and regulatory landscapes, while ensuring a price signal that incentivizes investment and generates revenues. The latter could be used as investments to reduce transport costs, especially in developing countries, where transport costs are generally more prohibitive than the world average. In this respect, a focus on the special needs of the least developed countries and small island developing States is warranted.

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ENDNOTES

1. Three shipping alliances were formed in 2018: 2M, the Ocean Alliance and "The" Alliance. The first, 2M, is composed of the Mediterranean Shipping Company and Maersk, which acquired Hamburg Süd. (Hyundai Merchant Marine signed a strategic cooperation agreement with the 2M partners.) The second, the Ocean Alliance, brought together three shipping lines, CMA CGM, which acquired American President Lines and Mercosul Line; China Cosco Shipping, which acquired Orient Overseas Container Line; and Evergreen. The third, "The" Alliance, was born of a merger between Hapag-Lloyd, Yang Ming and Ocean Network Express (the latter is also known as "ONE", a joint venture established between Nippon Yusen Kabushiki Kaisha, Mitsui Osaka Shosen Kaisha Lines and Kawasaki Kisen Kaisha in April 2018).
2. This section benefits from comments provided during an informal workshop on market-based measures in maritime transport organized by the Carbon Pricing Leadership Coalition in Cologne, Germany, on 8 and 9 May 2018.
3. A summary of earlier discussions and/or proposals on market-based measures at IMO can be found in previous editions of the *Review on Maritime Transport*: 2010 (pp. 119–123), 2011 (pp. 118 and 119), 2012 (pp. 99–101) and 2013 (p. 108).
4. The emissions figures for 2008 and for the 2030 projection are based on different sources, which might slightly influence the relative reduction figure.